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10/634,587	08/05/2003	Wayne Minns	N81510PPH	8946

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EXAMINER	
DICKERSON, CHAD S	

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2625	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/634,587	MINNS ET AL.	
	Examiner	Art Unit	
	Chad Dickerson	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 07 August 2007.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 8/5/2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verghese '364 (EP No 1096364 A2), as modified by Hewitt '061 (US Pat No 7016061) and further in view of Jackson '134 (US Pub No 2002/0071134).

Re claim 1: Verghese '364 discloses an estimation of time to complete a print job, said method comprising:

generating meta-data from printing instructions (i.e. in the broadest sense of the word, meta-data is data that describes the content, or aspect of an actual data item. When a user's computer transmits printing instructions to a printer, the instructions are converted into a PDL (page description language). The PDL is data used by the computer to communicate with the printer, in a language the printer can understand, in order to describe the original data, which comprises a file for printing, that the printer can perform processing with in order to output a file. In short the PDL is "data about

data" that allows the printer to describe a document and print the document in the manner of that description; see paragraphs [0016] and [0017]);

calculating a complexity prediction for each of said printing instructions (i.e. the complexity of the print job depends on several factors, such as the number of vectors, size and bit depth of raster images and the number of complex graphic operations. The efficiency of the printer (110) depends on the code or instructions utilized to perform the tasks above. The complexity metric is calculated using the contents that are in the print instructions to form a page or image; see fig. 2; paragraphs [0019] and [0028]-[0030]);

estimating a processing time for each of said printing instructions based on said complexity prediction (i.e. based on the complexity metric the processing time of a page is estimated using the equation in paragraph [0030]. This is performed each time print job is spooled in the spool file (213) for a submitted print job. The estimated processing time is performed on a page-by-page basis; see fig. 2; paragraphs [0025]-[0033]).

However, Verghese '364 fails to teach evaluating said printing instructions based on said processing time.

However, this is well known in the art as evidenced by Hewitt '061. Hewitt '061 discloses evaluating said printing instructions based on said processing time (i.e. in Hewitt '061, the system evaluates the printing instructions based on the processing time and makes the determination whether to perform a print processing operation, such as RIPing a document, on the host computer (12) or on the imaging device (14). This performs the feature of evaluating printing instructions based on the processing instructions; see fig. 1-4; col. 7, lines 51-67 and col. 8, lines 1-27).

However, Verghese '364 in view of Hewitt '061 fails to teach adjusting the order of the printing instructions based on said evaluation of the printing instructions.

However, this is well known in the art as evidenced by Jackson '134. Jackson '1343 discloses adjusting the order of the printing instructions based on said evaluation of the printing instructions (i.e. in Jackson '134, the system includes a workflow for an individual printshop. The workflow is a set of instructions detailing the sequence operations, considered as the printing instructions, and required resources necessary to complete a print job. The workflow is based on knowledge about the available resources and job costs. The conversion process produces workflow, a schedule with estimated completion times, and a job cost estimate. In the system, if a job submitter does not approve of the current workflow and job cost estimate, the system generates a new proposed workflow and job cost estimate. This new workflow and job cost estimate are both adjusted since new resources may have been desired to be utilized. This performs the above feature of adjusting the order of the print instructions based on the evaluation of the processing time because the user in the system can turn down the instructions detailing the operations to complete the print job based on inappropriate completion dates and substitute resources in order to adjust the proposed workflow, schedule and job cost estimate. The above feature incorporated in the device of Verghese '364, modified by Hewitt '061, performs the above feature; see fig. 1; paragraphs [0004]-[0016]).

Therefore, in view of Jackson '134, it would have been obvious to one of ordinary skill at the time the invention was made to have the method step of adjusting the order

of the printing instructions based on said evaluation of the printing instructions in order to adjust the set of instructions detailing the sequence of operations to complete the print job (as stated in Jackson '134 paragraph [0004]).

Re claim 2: Verghese '364 discloses the method, wherein said evaluating produces one or more of:

a cost analysis of said printing instructions (i.e. when the system looks at the printing instructions to develop a complexity metric, a time cost associated with the print instructions of a page is produced in order to have all the factors in the complexity metric calculation. A time cost is also developed for the time estimation as a cost analysis of processing a page in the printer; see paragraphs [0028]-[0031]).

Re claim 3: Verghese '364 discloses the method, wherein said processing of said printing instructions includes one or more of raster image processing and spooling (i.e. in the system, an image is spooled on a page-by-page basis while a complexity metric is calculated using the spooled data. Also, when an image is formed into a bitmap image, the image is rasterized. The feature of raster image processing of an image is performed in the invention of Verghese '364; see paragraphs [0018]).

Re claim 4: Verghese '364 discloses the method, wherein said generating of said meta-data comprises examining one or more of font attributes, font size, vector complexity, digital image content, digital image size, and digital image type (i.e. the metadata that is

examined in the system is the vector complexity of an image, image size and the graphic operations portion of the invention, which is analogous to the font attributes or the image type; see paragraphs [0018] and [0019]).

Re claim 5: Verghese '364 discloses the method; further comprising supplying an accuracy factor for said complexity prediction (i.e. the time cost of printing the bitmap (B_t) and applying a complex operation (C_t) are both analogous to an accuracy factor because these factors are set as default values during the printer manufacture and are dependent on the characteristics of the particular printer. These factors keep the complexity metric accurate in terms of being accurate of estimating the most correct complexity metric for the particular printer; see paragraphs [0028]-[0032]).

Re claim 6: Verghese '364 discloses the method, wherein said accuracy factor controls a processing precision of said complexity prediction calculation (i.e. the closer the values of the time costs listed in paragraph [0029] are to the particular printer's characteristics, the more precise the complexity metric can be calculated to help estimate a more precise estimation of the time the system takes to process an image; see paragraphs [0028]-[0032]).

Re claim 7: Verghese '364 discloses the method, further comprising adding a feedback factor to said complexity prediction based on responses from downstream functions (i.e. when calculating the complexity metric, the system provides a number representing the

complex operations on a page (C) or a bitmap complexity on a page (B) and these factors are all added to in the equation to estimate the complexity metric. These are used to provide more of an accurate estimate of a complexity metric. These operations are performed in the printer driver, which is a downstream element that performs the function of adding a factor to the complexity metric equation after information has passed through the application phase and providing of a print job request by the operating system in the invention; see paragraphs [0022]-[0032]).

Re claim 8: Verghese '364 discloses an estimation of time to complete a print job, said method comprising:

generating meta-data from printing instructions (i.e. in the broadest since of the word, meta-data is data that describes the content, or aspect of an actual data item. When a user's computer transmits printing instructions to a printer, the instructions are converted into a PDL (page description language). The PDL is data used by the computer to communicate with the printer, in a language the printer can understand, in order to describe the original data, which comprises a file for printing, that the printer can perform processing with in order to output a file. In short the PDL is "data about data" that allows the printer to describe a document and print the document in the manner of that description; see paragraphs [0016] and [0017]);

examining one or more of font attributes, font size, vector complexity, digital image content, digital image size, digital image type to calculate a complexity prediction for each of said printing instructions (i.e. the metadata that is examined in the system is

the vector complexity of an image, image size and the graphic operations portion of the invention, which is analogous to the font attributes or the image type; see paragraphs [0018] and [0019]);

estimating a processing time for each of said printing instructions based on said complexity prediction (i.e. based on the complexity metric the processing time of a page is estimated using the equation in paragraph [0030]. This is performed each time print job is spooled in the spool file (213) for a submitted print job. The estimated processing time is performed on a page-by-page basis; see fig. 2; paragraphs [0025]-[0033]).

However, Verghese '364 fails to teach evaluating said printing instructions based on said processing time.

However, this is well known in the art as evidenced by Hewitt '061. Hewitt '061 discloses evaluating said printing instructions based on said processing time (i.e. in Hewitt '061, the system evaluates the printing instructions based on the processing time and makes the determination whether to perform a print processing operation, such as RIPing a document, on the host computer (12) or on the imaging device (14). This performs the feature of evaluating printing instructions based on the processing instructions; see fig. 1-4; col. 7, lines 51-67 and col. 8, lines 1-27).

However, Verghese '364 in view of Hewitt '061 fails to teach adjusting the order of the printing instructions based on said evaluation of the printing instructions.

However, this is well known in the art as evidenced by Jackson '134. Jackson '1343 discloses adjusting the order of the printing instructions based on said evaluation of the printing instructions (i.e. in Jackson '134, the system includes a workflow for an

individual printshop. The workflow is a set of instructions detailing the sequence operations, considered as the printing instructions, and required resources necessary to complete a print job. The workflow is based on knowledge about the available resources and job costs. The conversion process produces workflow, a schedule with estimated completion times, and a job cost estimate. In the system, if a job submitter does not approve of the current workflow and job cost estimate, the system generates a new proposed workflow and job cost estimate. This new workflow and job cost estimate are both adjusted since new resources may have been desired to be utilized. This performs the above feature of adjusting the order of the print instructions based on the evaluation of the processing time because the user in the system can turn down the instructions detailing the operations to complete the print job based on inappropriate completion dates and substitute resources in order to adjust the proposed workflow, schedule and job cost estimate. The above feature incorporated in the device of Verghese '364, modified by Hewitt '061, performs the above feature; see fig. 1; paragraphs [0004]-[0016]).

Therefore, in view of Jackson '134, it would have been obvious to one of ordinary skill at the time the invention was made to have the method step of adjusting the order of the printing instructions based on said evaluation of the printing instructions in order to adjust the set of instructions detailing the sequence of operations to complete the print job (as stated in Jackson '134 paragraph [0004]).

Re claim 9: Verghese '364 discloses the method, wherein said evaluating produces one or more of:

a cost analysis of said printing instructions (i.e. when the system looks at the printing instructions to develop a complexity metric, a time cost associated with the print instructions of a page is produced in order to have all the factors in the complexity metric calculation. A time cost is also developed for the time estimation as a cost analysis of processing a page in the printer; see paragraphs [0028]-[0031]).

Re claim 10: Verghese '364 discloses the method, wherein said processing of said printing instructions includes one or more of raster image processing and spooling (i.e. in the system, an image is spooled on a page-by-page basis while a complexity metric is calculated using the spooled data. Also, when an image is formed into a bitmap image, the image is rasterized. The feature of raster image processing of an image is performed in the invention of Verghese '364; see paragraphs [0018]).

Re claim 11: Verghese '364 discloses the method, further comprising supplying an accuracy factor for said complexity prediction (i.e. the time cost of printing the bitmap (B_t) and applying a complex operation (C_t) are both analogous to an accuracy factor because these factors are set as default values during the printer manufacture and are dependent on the characteristics of the particular printer. These factors keep the complexity metric accurate in terms of being accurate of estimating the most correct complexity metric for the particular printer; see paragraphs [0028]-[0032]).

Re claim 12: Verghese '364 discloses the method, wherein said accuracy factor controls a processing precision of said complexity prediction calculation (i.e. the closer the values of the time costs listed in paragraph [0029] are to the particular printer's characteristics, the more precise the complexity metric can be calculated to help estimate a more precise estimation of the time the system takes to process an image; see paragraphs [0028]-[0032]).

Re claim 13: Verghese '364 discloses the method, further comprising adding a feedback factor to said complexity prediction based on responses from downstream functions (i.e. when calculating the complexity metric, the system provides a number representing the complex operations on a page (C) or a bitmap complexity on a page (B) and these factors are all added to in the equation to estimate the complexity metric. These are used to provide more of an accurate estimate of a complexity metric. These operations are performed in the printer driver, which is a downstream element that performs the function of adding a factor to the complexity metric equation after information has passed through the application phase and providing of a print job request by the operating system in the invention; see paragraphs [0022]-[0032]).

Re claim 14: Verghese '364 discloses an estimation of time to complete a print job, said method comprising:

generating meta-data from printing instructions (i.e. in the broadest since of the word, meta-data is data that describes the content, or aspect of an actual data item. When a user's computer transmits printing instructions to a printer, the instructions are converted into a PDL (page description language). The PDL is data used by the computer to communicate with the printer, in a language the printer can understand, in order to describe the original data, which comprises a file for printing, that the printer can perform processing with in order to output a file. In short the PDL is "data about data" that allows the printer to describe a document and print the document in the manner of that description; see paragraphs [0016] and [0017]);

calculating a complexity prediction for each of said printing instructions (i.e. the complexity of the print job depends on several factors, such as the number of vectors, size and bit depth of raster images and the number of complex graphic operations. The efficiency of the printer (110) depends on the code or instructions utilized to perform the tasks above. The complexity metric is calculated using the contents that are in the print instructions to form a page or image; see fig. 2; paragraphs [0019] and [0028]-[0030]);

estimating a processing time for each of said printing instructions based on said complexity prediction (i.e. based on the complexity metric the processing time of a page is estimated using the equation in paragraph [0030]. This is performed each time print job is spooled in the spool file (213) for a submitted print job. The estimated processing time is performed on a page-by-page basis; see fig. 2; paragraphs [0025]-[0033]).

However, Verghese '364 fails to teach evaluating said printing instructions based on said processing time.

However, this is well known in the art as evidenced by Hewitt '061. Hewitt '061 discloses evaluating said printing instructions based on said processing time (i.e. in Hewitt '061, the system evaluates the printing instructions based on the processing time and makes the determination whether to perform a print processing operation, such as RIPing a document, on the host computer (12) or on the imaging device (14). This performs the feature of evaluating printing instructions based on the processing instructions; see fig. 1-4; col. 7, lines 51-67 and col. 8, lines 1-27).

However, Verghese '364 in view of Hewitt '061 fails to teach adjusting the order of the printing instructions based on said evaluation of the printing instructions.

However, this is well known in the art as evidenced by Jackson '134. Jackson '1343 discloses adjusting the order of the printing instructions based on said evaluation of the printing instructions (i.e. in Jackson '134, the system includes a workflow for an individual printshop. The workflow is a set of instructions detailing the sequence operations, considered as the printing instructions, and required resources necessary to complete a print job. The workflow is based on knowledge about the available resources and job costs. The conversion process produces workflow, a schedule with estimated completion times, and a job cost estimate. In the system, if a job submitter does not approve of the current workflow and job cost estimate, the system generates a new proposed workflow and job cost estimate. This new workflow and job cost estimate are both adjusted since new resources may have been desired to be utilized. This performs the above feature of adjusting the order of the print instructions based on the evaluation of the processing time because the user in the system can turn down the

instructions detailing the operations to complete the print job based on inappropriate completion dates and substitute resources in order to adjust the proposed workflow, schedule and job cost estimate. The above feature incorporated in the device of Verghese '364, modified by Hewitt '061, performs the above feature; see fig. 1; paragraphs [0004]-[0016]).

Therefore, in view of Jackson '134, it would have been obvious to one of ordinary skill at the time the invention was made to have the method step of adjusting the order of the printing instructions based on said evaluation of the printing instructions in order to adjust the set of instructions detailing the sequence of operations to complete the print job (as stated in Jackson '134 paragraph [0004]).

Re claim 15: Verghese '364 discloses the program storage device, wherein said evaluating produces one or more of:

a cost analysis of said printing instructions (i.e. when the system looks at the printing instructions to develop a complexity metric, a time cost associated with the print instructions of a page is produced in order to have all the factors in the complexity metric calculation. A time cost is also developed for the time estimation as a cost analysis of processing a page in the printer; see paragraphs [0028]-[0031]).

Re claim 16: Verghese '364 discloses the program storage device, wherein said processing of said printing instructions includes one or more of raster image processing and spooling (i.e. in the system, an image is spooled on a page-by-page basis while a

complexity metric is calculated using the spooled data. Also, when an image is formed into a bitmap image, the image is rasterized. The feature of raster image processing of an image is performed in the invention of Verghese '364; see paragraphs [0018]).

Re claim 17: Verghese '364 discloses the program storage device, wherein said generating of said meta-data comprises examining one or more of font attributes, font size, vector complexity, digital image content, digital image size, and digital image type (i.e. the metadata that is examined in the system is the vector complexity of an image, image size and the graphic operations portion of the invention, which is analogous to the font attributes or the image type; see paragraphs [0018] and [0019]).

Re claim 18: Verghese '364 discloses the program storage device, further comprising supplying an accuracy factor for said complexity prediction (i.e. the time cost of printing the bitmap (B_t) and applying a complex operation (C_t) are both analogous to an accuracy factor because these factors are set as default values during the printer manufacture and are dependent on the characteristics of the particular printer. These factors keep the complexity metric accurate in terms of being accurate of estimating the most correct complexity metric for the particular printer; see paragraphs [0028]-[0032]).

Re claim 19: Verghese '364 discloses the program storage device, wherein said accuracy factor controls a processing precision of said complexity prediction calculation (i.e. the closer the values of the time costs listed in paragraph [0029] are to the

particular printer's characteristics, the more precise the complexity metric can be calculated to help estimate a more precise estimation of the time the system takes to process an image; see paragraphs [0028]-[0032]).

Re claim 20: Verghese '364 discloses the program storage device, further comprising adding a feedback factor to said complexity prediction based on responses from downstream functions (i.e. when calculating the complexity metric, the system provides a number representing the complex operations on a page (C) or a bitmap complexity on a page (B) and these factors are all added to in the equation to estimate the complexity metric. These are used to provide more of an accurate estimate of a complexity metric. These operations are performed in the printer driver, which is a downstream element that performs the function of adding a factor to the complexity metric equation after information has passed through the application phase and providing of a print job request by the operating system in the invention; see paragraphs [0022]-[0032]).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Dickerson whose telephone number is (571)-270-1351. The examiner can normally be reached on Mon. thru Thur. 9:00-6:30 Fri. 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571)- 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CD/
Chad Dickerson
September 28, 2007

AUNG S. MOE
SUPERVISORY PATENT EXAMINER
9/28/07